3. (Once Amended) The article of claim 1, wherein the cured polymer layer comprises a metallic electrically conductive medium.

4. (Once Amended) The article of claim 3, wherein the metallic electrically conductive medium comprises metallic elements dispersed within the polymer layer.

5. (Once Amended) The article of claim 3, wherein the ceramic superconductor is in the form of a tape having a thickness and wherein the electrically conductive medium permits the cured polymer layer to be conductive at least along a direction parallel to the thickness of the tape.

6. (Once Amended) The article of claim 1, wherein the ceramic superconductor is in the form a superconducting tape.

7. (Once Amended) The article claim 1, wherein the article is greater than 50 meters long.

8. (Once Amended) The article of claim 1, wherein the ceramic superconductor comprises a plurality of superconducting ceramic filaments, and the article further comprises a metallic matrix supporting the plurality of superconducting ceramic filaments.

9. (Once Amended) The article of claim 1, wherein the ceramic superconductor comprises at least one superconducting ceramic layer, and the article further comprises at least one metallic substrate supporting the at least one superconducting ceramic layer.

10. (Once Amended) The article of claim 1, wherein the sealing structure is configured to prevent a cryogenic fluid at a pressure of at least about two bar from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

a' cncl'd.

11. (Once Amended) The article of claim 10, wherein the sealing structure is configured to prevent a cryogenic fluid at a pressure of at least about 10 atmospheres from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

12. (Once Amended) A superconducting article, comprising:

a ceramic superconductor having a length and an outer surface along its length; and

a sealing structure configured to permit the article to withstand thermal cycling when exposed to a fluid cryogen at a pressure of at least about one atmosphere without degrading the current carrying capability of the ceramic superconductor by more than 10%,

wherein the sealing structure comprises a cured polymer layer encircling the outer surface of the ceramic superconductor, and the superconducting article is in the form of a cable.

13. (Once Amended) The article of claim 12, wherein the sealing structure is configured to permit the article to withstand thermal cycling when exposed to a fluid cryogen at a pressure of at least about two bar without degrading the current carrying capability of the ceramic superconductor by more than 10%.

16. (Once Amended) The article of claim 1, wherein the cured polymer layer has an ultimate tensile strength of at least about 100-160 MPa at 77 K.

17. (Once Amended) The article of claim 1, wherein the cured polymer layer has an elongation of at least about 0.3% to 0.5% at 77 K.

18. (Once Amended) The article of claim 1, wherein the cured polymer layer has an ultimate tensile strength of at least about 100-160 MPa at 77 K and an elongation of at least about 0.3% to 0.5% at 77 K.--

Add the following claims.

--23. (New) The article of claim 1, wherein the article further comprises a metallic layer between the cured polymer layer and the ceramic superconductor.

24. (New) The article of claim 12, wherein the sealing structure is configured to prevent a cryogenic fluid at a pressure of at least about two bar from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

25. (New) The article of claim 12, wherein the sealing structure is configured to prevent a cryogenic fluid at a pressure of at least about 10 atmospheres from infiltrating into the ceramic superconductor through the outer surface of the ceramic superconductor.

26. (New) The article of claim 12, wherein the cured polymer layer comprises an electrically conductive medium.

27. (New) The article of claim 26, wherein the electrically conductive medium comprises metallic elements dispersed within the polymer layer.

28. (New) The article of claim 12, wherein the article further comprises a metallic layer between the cured polymer layer and the ceramic superconductor.--